

Remarks

The Office Action mailed January 30, 2007 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Applicants thank the Examiner for the telephonic interview on April 11, 2007. During the interview, the undersigned attorney and the Examiner discussed the Burlington-Keokuk, Elsey-Reeds Spring, and Pierson limestone formations. The Examiner suggested that Applicant provide more information regarding these formations and why they are significant to the claimed invention. The following remarks are made in response to the telephonic interview.

Claims 1-53 are now pending in this application. Claims 1-53 stand rejected.

The rejection of Claims 2, 19, 33, and 45-53 under 35 U.S.C. § 112, second paragraph, as being indefinite is respectfully traversed.

With regard to Claims 2, 19, and 33, and with respect to the meaning of "Burlington-Keokuk limestone formation," Elsey-Reeds Spring formation," and "Pierson formation," Applicants respectfully submit that an application for a patent is not required to be written such that it is understood by any lay person. Rather, it is well established that patent applications are written based upon the knowledge of one having ordinary skill in the art. Accordingly, while the "poor befuddled examiner, who admittedly has much less than ordinary skill in the art, has not got a clue what these formations are and what their significance is," Applicants submit that one of ordinary skill in the art would understand the significance of these formations. Accordingly, Applicants submit that it is clear error for the Examiner to assert a Section 112, second paragraph, rejection merely because the Examiner admittedly has less than ordinary skill in the art.

Further, Applicants submit that one having ordinary skill in the art would understand that the Burlington-Keokuk limestone formation, the Elsey-Reeds Spring formation, and the Pierson formation are well known in the art as limestone formations that derive their name from the area of the country in which they are found. More specifically, it is well know by

those skilled in the art that these formations include portions of stone that are taken from different stone ledges and have a different hardness, as is described in paragraph [0017] of Applicant's specification. Moreover, Applicants have attached an article from stoneinfo.com that describes that limestone varies in hardness. (<http://www.natural-stone.com/stonefacts.html>, page 2)

Accordingly, Applicants submit that the significance of the described formations is that a single formation can include portions that vary in hardness. As such, a composition for microsurfacing of pavement is capable of having a single crushed aggregate that includes a first portion having a first hardness and a second portion having a second hardness, as is claimed in the present application. For at least these reasons, Applicants submit that Claims 2, 19, and 33 particularly point out and distinctly claim the subject matter that Applicants regard as the invention.

With regard to Claims 45-53, Applicants have amended Claims 45-53 to address the issues raised in the Office Action.

For at least the reasons set forth above, Applicants respectfully request that the Section 112, second paragraph, rejection of Claims 2, 19, 33, and 45-53 be withdrawn.

The rejection of Claims 11 and 31 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement is respectfully traversed.

Applicants respectfully traverse the assertion by the Examiner at page 3 of the Office Action that Applicants have claimed "further crushing the crushed aggregate." Rather, Claim 11 recites a "composition according to Claim 1 wherein said crushed aggregate further comprises aggregate that has been crushed utilizing an impact crusher." Further, Claim 31 recites a "method according to Claim 18 wherein preparing a crushed aggregate further comprises crushing the aggregate utilizing an impact crusher." Applicants submit that neither of these claims describe or suggest *further crushing* the aggregate. Rather, these claims merely describe that the crushed aggregate is prepared using an impact crusher. Applicants submit that the *crushed aggregate* must clearly be *crushed* by some means. Further, paragraph [0023] of Applicant's specification clearly recites that "[v]irtually 100% of

aggregate 14 is crushed using an impact crusher.” For at least these reasons, Applicants submit that Claims 11 and 31 fully comply with the written description requirement of Section 112, first paragraph.

Accordingly, Applicants respectfully request that the Section 112, first paragraph, rejection of Claims 11 and 31 be withdrawn.

The rejection of Claims 1-53 under 35 U.S.C. § 103 as being unpatentable over Sugi et al. (U.S. Patent 5,223,031) (hereinafter referred to as “Sugi”), Raynaud (U.S. Patent Application Publication 2006/0127572), Dreamtech Co. (KR 2001019265) (hereinafter referred to as “Dreamtech”), or Ohtsuka et al. (U.S. Patent 5,925,695) (hereinafter referred to as “Ohtsuka”) in view of Ward, Jr. (U.S. Patent 4,373,960) (hereinafter referred to as “Ward”) is respectfully traversed.

Sugi merely describes an asphalt mixture that includes a blend of fine and coarse aggregate, Raynaud merely describes blending several fractions of aggregates with organic and inorganic binders, Dreamtech merely describes asphalt having fine and coarse aggregates, and Ohtsuka merely describes asphalt that includes two different crushed stones. Applicants submit that each of these cited references is cited for including aggregates or stones that have a varying fineness. However, the claims of the present invention do not make reference to fineness. Rather the claims of the present invention refer to an aggregate that includes a first portion having a first *hardness* and a second portion having a second *hardness*. As is known by those skilled in the art, the size of a stone is not related to the hardness of the stone. Rather, the size of the stone and the hardness of the stone are two entirely unrelated properties. Accordingly, prior art references that describe blends of fine and coarse aggregate do not render obvious the claimed invention.

Moreover, some of the cited references describe asphalt that includes two or more different stones. However, the claims of the present invention clearly describe a composition that includes a single limestone aggregate that includes two portions each having a different hardness. Specifically, the limestone composition is significant because limestone is formed in distinct ledges that include different hardnesses. Accordingly, a single limestone aggregate can have multiple portions that vary in hardness. As such, prior art references that describe

compositions including more than one stone and/or including stones of different size do not describe or suggest the claimed invention. In addition, Ward is merely cited for describing a typical screen analysis of a coarse aggregate and, therefore, does not make up for the deficiencies of Sugi, Raynaud, Dreamtech, and Ohtsuka.

Specifically, Claim 1 recites a composition for microsurfacing of pavement, wherein the composition comprises “a polymer-modified emulsion asphalt oil...water...cement... crushed aggregate comprising a first portion and a second portion, said first portion having a first L.A. abrasion resistance, said second portion having a second L.A. abrasion resistance lower than the first L.A. abrasion resistance, said crushed aggregate comprising a limestone aggregate, said first portion taken from a first ledge of stone and said second portion taken from a second ledge of stone.”

None of Sugi, Raynaud, Dreamtech, Ohtsuka, and Ward describes or suggests a composition for microsurfacing of pavement as recited in Claim 1. Specifically, none of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a composition that includes a crushed aggregate including a limestone aggregate, wherein a first portion of the aggregate is taken from a first ledge of stone and a second portion of the aggregate is taken from a second ledge of stone. Rather, Sugi merely describes an asphalt mixture that includes a blend of fine and coarse aggregate, Raynaud merely describes blending several fractions of aggregates with organic and inorganic binders, Dreamtech merely describes asphalt having fine and coarse aggregates, Ohtsuka merely describes asphalt that includes two different crushed stones, and Ward is merely cited for describing a typical screen analysis of a coarse aggregate. Accordingly, Applicants submit that Claim 1 is patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claims 1-17 and 48 depend from independent Claim 1. When the recitations of Claims 1-17 and 48 are considered in combination with Claim 1, Applicants submit that Claims 1-17 and 48 likewise are patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claim 18 recites a method for microsurfacing a surface, wherein the method comprises “preparing a crushed aggregate which includes a first portion and a second portion,

the first portion having an L.A. abrasion resistance higher than the L.A. abrasion resistance of the second portion of the crushed aggregate, the crushed aggregate having a sand equivalent value of at least 80 percent, said crushed aggregate comprising a limestone aggregate, said first portion taken from a first ledge of stone and said second portion taken from a second ledge of stone...mixing the crushed aggregate with a polymer-modified emulsion asphalt oil, water, and cement...applying the mixture to the surface to be microsurfaced.”

None of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a method for microsurfacing a surface as recited in Claim 18. Specifically, none of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a method including preparing a crushed aggregate including a limestone aggregate, wherein a first portion of the aggregate is taken from a first ledge of stone and a second portion of the aggregate is taken from a second ledge of stone. Rather, Sugi merely describes an asphalt mixture that includes a blend of fine and coarse aggregate, Raynaud merely describes blending several fractions of aggregates with organic and inorganic binders, Dreamtech merely describes asphalt having fine and coarse aggregates, Ohtsuka merely describes asphalt that includes two different crushed stones, and Ward is merely cited for describing a typical screen analysis of a coarse aggregate. Accordingly, Applicants submit that Claim 18 is patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claims 19-31 and 49 depend from independent Claim 18. When the recitations of Claims 19-31 and 49 are considered in combination with Claim 18, Applicants submit that Claims 19-31 and 49 likewise are patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claim 32 recites a crushed aggregate for utilization in microsurfacing of pavement, wherein the crushed aggregate comprises “a first portion having a first L.A. abrasion resistance...a second portion having a second L.A. abrasion resistance, the first L.A. abrasion resistance being higher than the second L.A. abrasion resistance, said crushed aggregate comprising a limestone aggregate, said first portion taken from a first ledge of stone and said second portion taken from a second ledge of stone.”

None of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a crushed aggregate for utilization in microsurfacing of pavement as recited in Claim 32. Specifically, none of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a crushed aggregate including a limestone aggregate, wherein a first portion of the aggregate is taken from a first ledge of stone and a second portion of the aggregate is taken from a second ledge of stone. Rather, Sugi merely describes an asphalt mixture that includes a blend of fine and coarse aggregate, Raynaud merely describes blending several fractions of aggregates with organic and inorganic binders, Dreamtech merely describes asphalt having fine and coarse aggregates, Ohtsuka merely describes asphalt that includes two different crushed stones, and Ward is merely cited for describing a typical screen analysis of a coarse aggregate. Accordingly, Applicants submit that Claim 32 is patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claims 33-44 and 50 depend from independent Claim 32. When the recitations of Claims 33-44 and 50 are considered in combination with Claim 32, Applicants submit that Claims 33-44 and 50 likewise are patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claim 45 recites a composition for microsurfacing of pavement, wherein the composition comprises “a polymer-modified emulsion asphalt oil...water...cement...crushed aggregate from the Burlington-Keokuk limestone formation, wherein the aggregate comprises a first portion and a second portion, said first portion having a first L.A. abrasion resistance, said second portion having a second L.A. abrasion resistance lower than the first L.A. abrasion resistance, said first portion taken from a first ledge of stone and said second portion taken from a second ledge of stone.”

None of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a composition for microsurfacing of pavement as recited in Claim 45. Specifically, none of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a composition that includes a crushed aggregate including a limestone aggregate, wherein a first portion of the aggregate is taken from a first ledge of stone and a second portion of the aggregate is taken from a second ledge of stone. Rather, Sugi merely describes an asphalt mixture that includes

a blend of fine and coarse aggregate, Raynaud merely describes blending several fractions of aggregates with organic and inorganic binders, Dreamtech merely describes asphalt having fine and coarse aggregates, Ohtsuka merely describes asphalt that includes two different crushed stones, and Ward is merely cited for describing a typical screen analysis of a coarse aggregate. Accordingly, Applicants submit that Claim 45 is patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claim 51 depends from independent Claim 45. When the recitations of Claim 51 are considered in combination with Claim 45, Applicants submit that Claim 51 likewise is patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claim 46 recites a composition for microsurfacing of pavement, wherein the composition comprises “a polymer-modified emulsion asphalt oil...water...cement...crushed aggregate from the Elsey-Reeds Spring formation, wherein the aggregate comprises a first portion and a second portion, said first portion having a first L.A. abrasion resistance, said second portion having a second L.A. abrasion resistance lower than the first L.A. abrasion resistance, said first portion taken from a first ledge of stone and said second portion taken from a second ledge of stone.”

None of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a composition for microsurfacing of pavement as recited in Claim 46. Specifically, none of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a composition that includes a crushed aggregate including a limestone aggregate, wherein a first portion of the aggregate is taken from a first ledge of stone and a second portion of the aggregate is taken from a second ledge of stone. Rather, Sugi merely describes an asphalt mixture that includes a blend of fine and coarse aggregate, Raynaud merely describes blending several fractions of aggregates with organic and inorganic binders, Dreamtech merely describes asphalt having fine and coarse aggregates, Ohtsuka merely describes asphalt that includes two different crushed stones, and Ward is merely cited for describing a typical screen analysis of a coarse aggregate. Accordingly, Applicants submit that Claim 46 is patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claim 52 depends from independent Claim 46. When the recitations of Claim 52 are considered in combination with Claim 46, Applicants submit that Claim 52 likewise is patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claim 47 recites a composition for microsurfacing of pavement, wherein the composition comprises “a polymer-modified emulsion asphalt oil...water...cement...crushed aggregate from the Pierson formation, wherein the aggregate comprises a first portion and a second portion, said first portion having a first L.A. abrasion resistance, said second portion having a second L.A. abrasion resistance lower than the first L.A. abrasion resistance, said first portion taken from a first ledge of stone and said second portion taken from a second ledge of stone.”

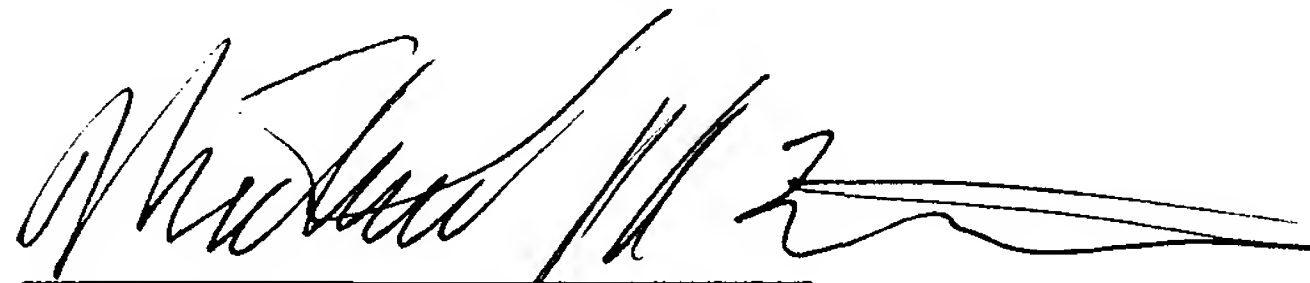
None of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a composition for microsurfacing of pavement as recited in Claim 47. Specifically, none of Sugi, Raynaud, Dreamtech, Ohtsuka, or Ward describes or suggests a composition that includes a crushed aggregate including a limestone aggregate, wherein a first portion of the aggregate is taken from a first ledge of stone and a second portion of the aggregate is taken from a second ledge of stone. Rather, Sugi merely describes an asphalt mixture that includes a blend of fine and coarse aggregate, Raynaud merely describes blending several fractions of aggregates with organic and inorganic binders, Dreamtech merely describes asphalt having fine and coarse aggregates, Ohtsuka merely describes asphalt that includes two different crushed stones, and Ward is merely cited for describing a typical screen analysis of a coarse aggregate. Accordingly, Applicants submit that Claim 47 is patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

Claim 53 depends from independent Claim 47. When the recitations of Claim 53 are considered in combination with Claim 47, Applicants submit that Claim 53 likewise is patentable over Sugi, Raynaud, Dreamtech, or Ohtsuka in view of Ward.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 1-53 be withdrawn.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Michael J.A. Leinauer', with a long horizontal flourish extending to the right.

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